SERVICE MANUAL
Level 1&2

NOKIA 6233 NOKIA 6234

RM-145 RM-123

Transceiver characteristics:

Band: Tri-band phone for GSM/EDGE 900/1800/1900MHz and WCDMA 2100

Camera: Integrated camera 2 Megapixel

Display: Active TFT QVGA color display with 262.144 colors, resolution 320 x 240 pixel

Bluetooth

IrDA

Stereo FM radio

Vibra Alert: Small round Vibra motor

Connector: Easy Flash connector

Transceiver with BP-6M-S Li-Ion battery pack

Talk time	Standby	Note
GSM: Up to 4h WCDMA: Up to 3.1h	up to 14 days	Depends on network parameters

Environmental characteristics:

- Lead-free soldered

Copyright © 2006 NOKIA Corporation. All rights reserved.

TABLE OF CONTENTS

Page

1. INTRODUCTION 3
2. GENERAL REPAIR INFORMATION 4
3. PATHFINDER FOR WORKSHOP STAFF 5
4. EXPLODED VIEW AND COMPONENT DISPOSAL 6
5. COMPONENT OVERVIEW 7
6. SPARE PARTS LIST 8
7. SERVICE TOOLS 9
8. SW-UPDATE 11
9. DISASSEMBLY INSTRUCTION 12
10. GONOGO TEST 18
11. BATTERY TEST 19

CHANGE HISTORY

Status	Version No.	Date	Comments
Draft	0.1	18.Apr.2006	Initial draft
Approved	1.0	25.Apr.2006	Approval

Copyright © 2006 NOKIA Corporation. All rights reserved.

1. INTRODUCTION

The purpose of this document is to help NOKIA service levels 1 and 2 workshop technicians to carry out service to NOKIA products. This Service Manual is to be used only by authorized NOKIA service suppliers, and the content of it is confidential. Please note that NOKIA provides also other guidance documents (e.g. Service Bulletins) for service suppliers, follow these regularly and comply with the given instructions.

While every endeavor has been made to ensure the accuracy of this document, some errors may exist.
If you find any errors or if you have further suggestions, please notify NOKIA using the address below:
mailto:cc-ts-rc.documentation@nokia.com

Please keep in mind also that this documentation is continuously being updated and modified, so watch always out for the newest version.

Warnings and Cautions

Please refer to the phone's user guide for instructions relating to operation, care and maintenance including important safety information. Note also the following:

Warnings:

1. CARE MUST BE TAKEN ON INSTALLATION IN VEHICLES FITTED WITH ELECTRONIC ENGINE MANAGEMENT SYSTEMS AND ANTI–SKID BRAKING SYSTEMS. UNDER CERTAIN FAULT CONDITIONS, EMITTED RF ENERGY CAN AFFECT THEIR OPERATION. IF NECESSARY, CONSULT THE VEHICLE DEALER/MANUFACTURER TO DETERMINE THE IMMUNITY OF VEHICLE ELECTRONIC SYSTEMS TO RF ENERGY.
2. THE HANDPORTABLE TELEPHONE MUST NOT BE OPERATED IN AREAS LIKELY TO CONTAIN POTENTIALLY EXPLOSIVE ATMOSPHERES, EG PETROL STATIONS (SERVICE STATIONS), BLASTING AREAS ETC.
3. OPERATION OF ANY RADIO TRANSMITTING EQUIPMENT, INCLUDING CELLULAR TELEPHONES, MAY INTERFERE WITH THE FUNCTIONALITY OF INADEQUATELY PROTECTED MEDICAL DEVICES. CONSULT A PHYSICIAN OR THE MANUFACTURER OF THE MEDICAL DEVICE IF YOU HAVE ANY QUESTIONS. OTHER ELECTRONIC EQUIPMENT MAY ALSO BE SUBJECT TO INTERFERENCE.

Cautions:

1. Servicing and alignment must be undertaken by qualified personnel only.
2. Ensure all work is carried out at an anti–static workstation and that an anti–static wrist strap is worn.
3. Use only approved components as specified in the parts list.
4. Ensure all components, modules screws and insulators are correctly re–fitted after servicing and alignment.
5. Ensure all cables and wires are repositioned correctly.

Electrostatic discharge can easily damage the sensitive components of electronic products. Therefore every Service Supplier has to take care of all precautions, which are mentioned in the service level related "Service Partner Requirements", available on NOKIA Online. Also see ESD Protection Requirements in this Service Manual.

Copyright © 2006 NOKIA Corporation. All rights reserved.

2. GENERAL REPAIR INFORMATION

In this section the technician will get some general hints how to carry out repairs:

- To familiarize oneself with NOKIA product read the tutorials or user guide on www.nokia.com -->Support--> Phones, by selecting the Phone Model.
- Before starting the repair you must take care of ESD precautions like being in your ESD Protected Area and connecting your wristband.
- Use gloves to avoid corrosion and fingerprints.
- Protect windows and displays with a film to avoid dust and scratches.
- When cleaning the LCD Module any lint-free cloth can be used (e.g. Micro-Fibre cloth).
- When cleaning the pads you have to use a soft cloth/ESD brush and Isopropanol. It is not allowed to use a glass fiber pencil because it scratches the surface and will lead later on to corrosion.
- Mechanical parts (except shielding lids and bent parts), which didn't repair the failure, can be reused, if they are not soldered.
- When removing the shielding lids make sure to replace them with new ones, otherwise the high-frequency leakage can have an influence on the device.
- Always use original NOKIA spare parts.
- Check the soldering joints of the parts, which are concerned regarding the indicated error (e.g. soldered connectors or switches) and resolder them if necessary (Level 2 only).
- Remove redundant soldering flux after repair.
- Meet the torque requirements when assembling the unit (see also the document "torques for transceiver assembly" on NOKIA Partner Web Site/NOKIA Online).
- Always use your own equipment for testing where you are sure that it works. E.g. if the customer complains about charger function, please test the phone with your own charger to be sure if phone or charger causes the malfunction.
- A SIM card is needed for all GoNoGo tests.
- When doing the fault log entries, always note the Item code, which caused the malfunction. Also, fill in the appropriate part code from the assembly, if needed.
- Please be aware that some malfunctions could be software related and solved by an update.

- There are several documents available on NOL, which have to be followed:
-
- First, take care for the latest content pages of Service Bulletins, which are always available for each folder on NOKIA Online. This is also important to recognize, if existing documents have become invalid.
-
- The service level indicator at the bottom of each document tells the appropriate destination.

Downloads > Support Library >

1. Instructions
2. General Service Bulletins
3. Product related documents
4. Spare Part Service Bulletins
5. Service Tools Service Bulletins
6. Common Software Service Bulletins
   etc,...

Use General SB-217 as a reference or overview.

Please also check NOKIA Online (NOL) for latest news and files on a regular basis.

Copyright © 2006 NOKIA Corporation. All rights reserved.

3. PATHFINDER FOR WORKSHOP STAFF

This is the NOL page (NOKIA Online) which is currently available in Europa, Middle East and Africa only!

In addition to the information in this Service Manual, there are several instructions and information, which have to be followed. Main documentation database is NOKIA Online with the purpose of serving different multimedia content, like video clips or interactive tutorials.

It is mandatory to watch for newest technical and organizational information on a daily basis to be updated as required (see "**Latest files in Support Library**"). Every new information has to be processed and implemented as soon as possible.
When logged into NOL you can also find needed information in different folder like:

Support Library → **Phones** →
Service Manuals
Service Bulletins
Software
Repair Information

Level 1&2 e-learning (former NOKIA CarePoint) on NOKIA Online

Former NOKIA CarePoint content, such as →	• **Online Troubleshooting** • **Product information** • **Videos – Disassembly/Assembly** →	can be found on **NOKIA Online**

Nokia 1100 Technical Training - Microsoft Internet Explorer provided by NOKIA
NOKIA
Connecting People
Nokia 1100 Technical Training
Help
Site map
Glossary
Close
Home
Overview & Guides
Disassembly & Assembly
Troubleshooting
Nokia 1100 Technical Training
This training offers a quick overview of the Nokia 1100 phone and support for how to repair and use the phone.
Overview & Guides
Disassembly & Assembly
Troubleshooting
Get a quick overview of the phone and how to use it.
Learn how to remove and reassemble the mechanical parts of the phone.
Fixes for most common problems with the Nokia phone.
Copyright © Nokia 2004. • Legal notice

NOKIA Online
↓
Care Services
↓
Training
↓
Phone Models

Level 1&2 e-learning courses offer a quick overview of the NOKIA phone and support for how to repair and use the phone:

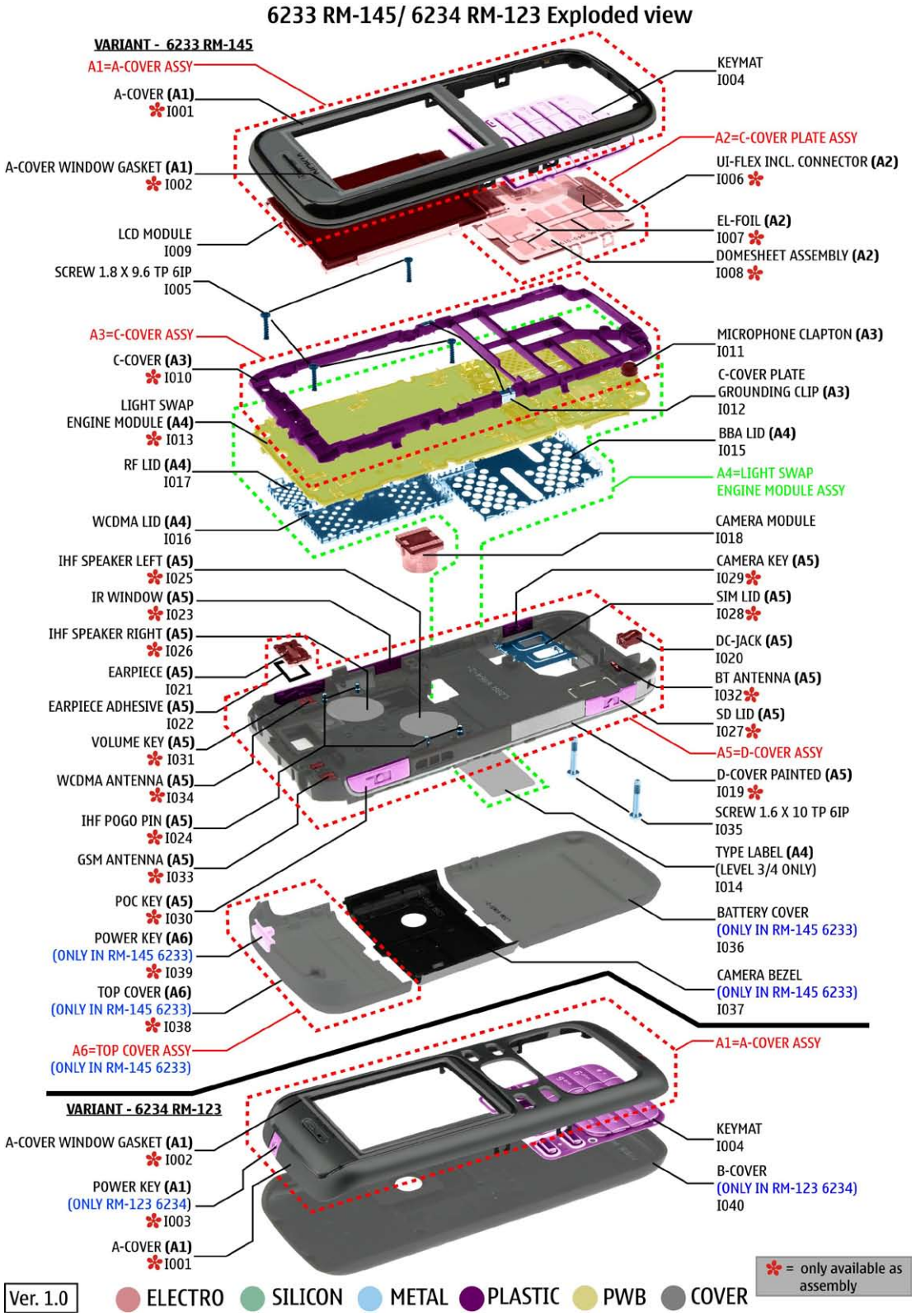
Overview & Guides	Disassembly & Assembly	Troubleshooting
Basic information about the phone, features and technologies	Instructions how to disassemble and assemble the phone	Step-by-step instructions on how to locate and repair the most common problems with the phone

To reduce the server traffic it is recommended to download newest version of huge files like videos, Phoenix packages or Service Manuals only once and distribute it internally for further use.

Copyright © 2006 NOKIA Corporation. All rights reserved.

4. EXPLODED VIEW AND COMPONENT DISPOSAL

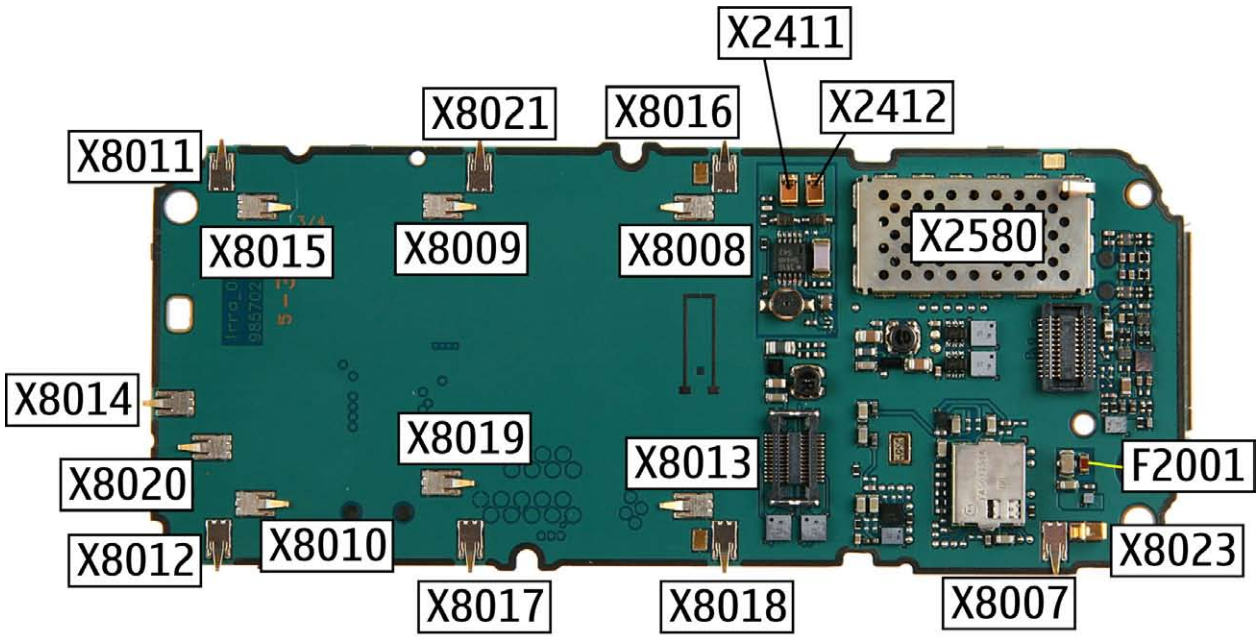
Recommendation for the ecologically friendly disposal of components. Colorized components show the different categories. See corresponding ITEM/CIRCUIT REF in the Spare Parts Service Bulletins on NOL.

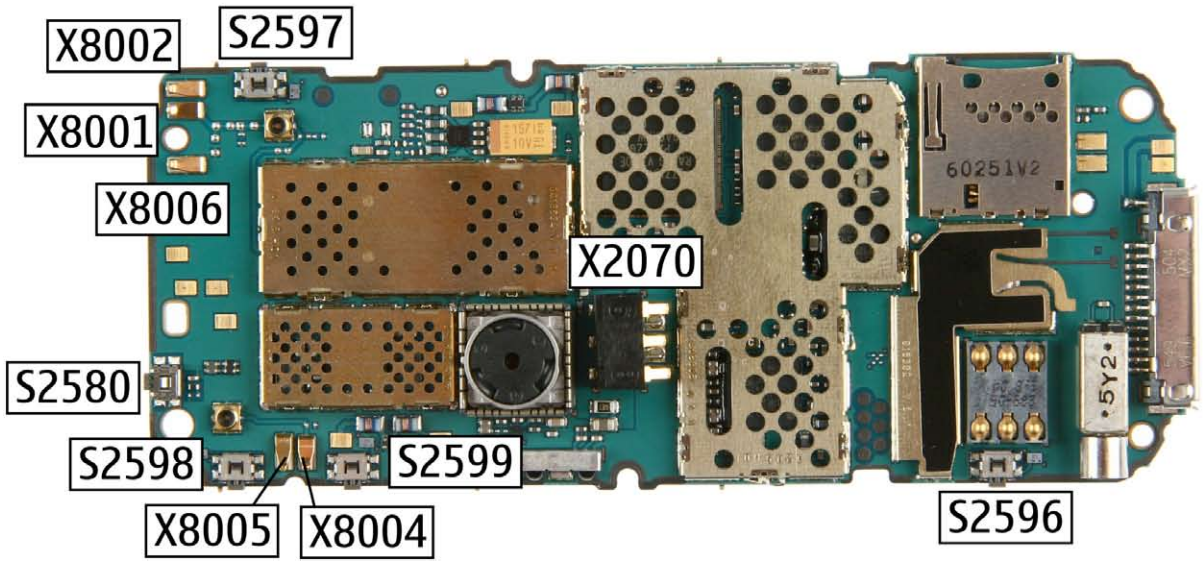

6233 RM-145/ 6234 RM-123 Exploded view
VARIANT - 6233 RM-145
A1=A-COVER ASSY
A-COVER (A1) ✽ I001
A-COVER WINDOW GASKET (A1) ✽ I002
LCD MODULE I009
SCREW 1.8 X 9.6 TP 6IP I005
A3=C-COVER ASSY
C-COVER (A3) ✽ I010
LIGHT SWAP ENGINE MODULE (A4) ✽ I013
RF LID (A4) I017
WCDMA LID (A4) I016
IHF SPEAKER LEFT (A5) ✽ I025
IR WINDOW (A5) ✽ I023
IHF SPEAKER RIGHT (A5) ✽ I026
EARPIECE (A5) I021
EARPIECE ADHESIVE (A5) I022
VOLUME KEY (A5) ✽ I031
WCDMA ANTENNA (A5) ✽ I034
IHF POGO PIN (A5) ✽ I024
GSM ANTENNA (A5) ✽ I033
POC KEY (A5) ✽ I030
POWER KEY (A6) (ONLY IN RM-145 6233) ✽ I039
TOP COVER (A6) (ONLY IN RM-145 6233) ✽ I038
A6=TOP COVER ASSY (ONLY IN RM-145 6233)
KEYMAT I004
A2=C-COVER PLATE ASSY
UI-FLEX INCL. CONNECTOR (A2) I006 ✽
EL-FOIL (A2) I007 ✽
DOMESHEET ASSEMBLY (A2) I008 ✽
MICROPHONE CLAPTON (A3) I011
C-COVER PLATE GROUNDING CLIP (A3) I012
BBA LID (A4) I015
A4=LIGHT SWAP ENGINE MODULE ASSY
CAMERA MODULE I018
CAMERA KEY (A5) I029 ✽
SIM LID (A5) I028 ✽
DC-JACK (A5) I020
BT ANTENNA (A5) I032 ✽
SD LID (A5) I027 ✽
A5=D-COVER ASSY
D-COVER PAINTED (A5) I019 ✽
SCREW 1.6 X 10 TP 6IP I035
TYPE LABEL (A4) (LEVEL 3/4 ONLY) I014
BATTERY COVER (ONLY IN RM-145 6233) I036
CAMERA BEZEL (ONLY IN RM-145 6233) I037
A1=A-COVER ASSY
VARIANT - 6234 RM-123
A-COVER WINDOW GASKET (A1) ✽ I002
POWER KEY (A1) (ONLY RM-123 6234) ✽ I003
A-COVER (A1) ✽ I001
KEYMAT I004
B-COVER (ONLY IN RM-123 6234) I040
✽ = only available as assembly
Ver. 1.0
ELECTRO
SILICON
METAL
PLASTIC
PWB
COVER

Copyright © 2006 NOKIA Corporation. All rights reserved.

5. COMPONENT OVERVIEW

6233 RM-145/ 6234 RM-123 Component overview





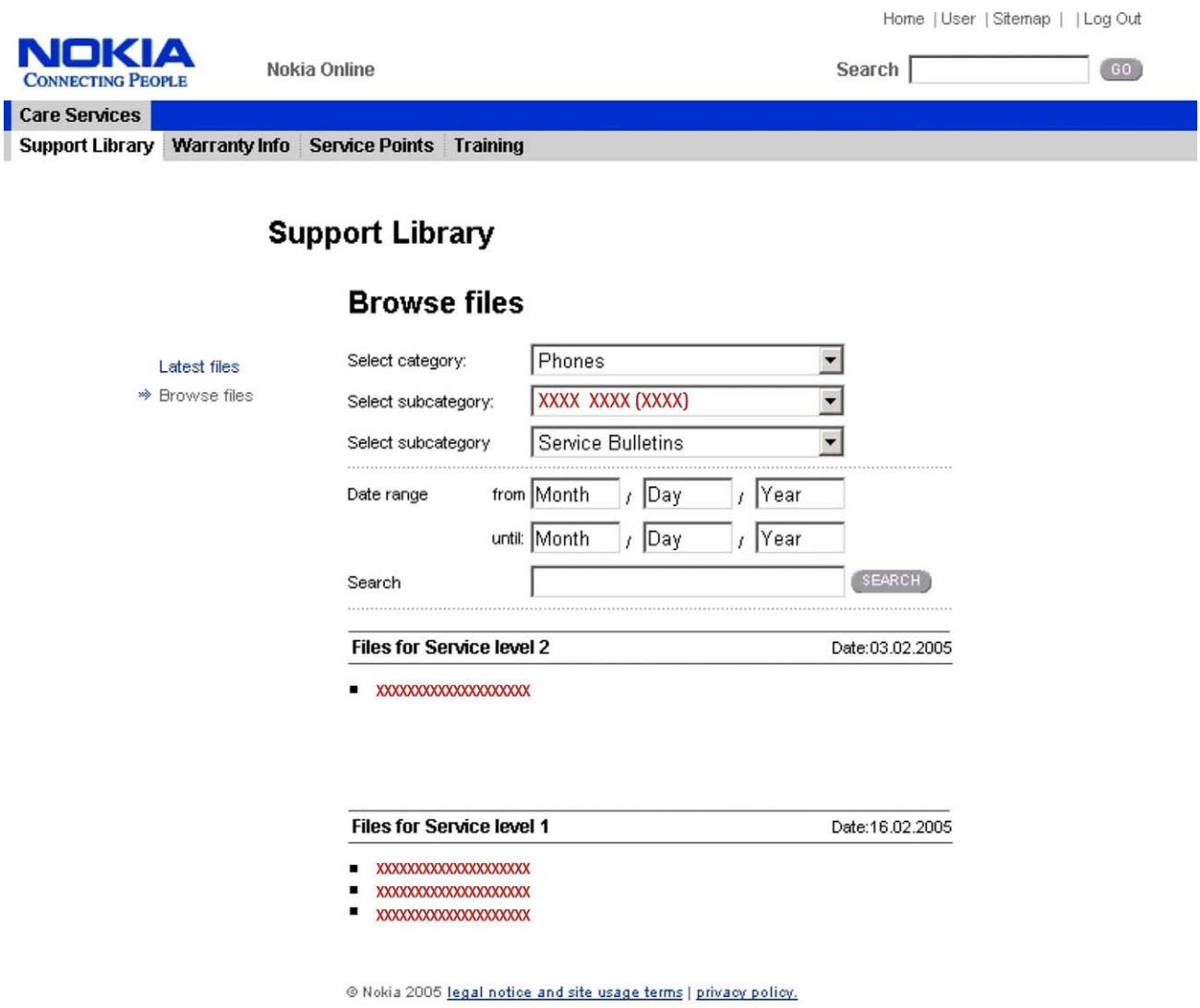
Copyright © 2006 NOKIA Corporation. All rights reserved.

6. SPARE PARTS LIST

Please exchange this page (placeholder) with latest corresponding Service Bulletins (spare parts, SWAP units and service tools) from NOL!

This will ensure, that you are using up-to-date order codes only.

Therefore Service Bulletins have to be checked from NOL on daily basis.



Copyright © 2006 NOKIA Corporation. All rights reserved.

7. SERVICE TOOLS

	FLS-4S incl. ACF-8, Driver and User Guide Dongle and flash device incorporated into one package, developed specifically for POS use.
	ACF-8 Universal Power Supply is used to power FLS-4S.
	Travel Charger AC-4 Small and lightweight charger for fast charging of your phone battery.
	Internal Battery BP-6M-S Inserted under the back cover, this Li-Ion battery provides power in a lightweight package.
	Headset HS-23 Small and lightweight stereo headset with handsfree call handling, volume control, push to talk support, and comfortable earpieces for listening to the FM radio or music player.
	SS-45 Camera removal tool. One side is for disassembly, the other side for assembly.
	CA-53 Service Cable to connect the PC with the Pop-Port™ connector.

Copyright © 2006 NOKIA Corporation. All rights reserved.

	RJ-108 Soldering Jig
	Lead-free Solder Wire Mandatory for lead-free products (Level 2 only).
	0772040 NMP Standard Toolkit • NOKIA opening tool SRT-6 NOKIA No. 0770431 • Tonichi torque driver NOKIA No. 6901525 • Hoya micro Fibre cloth MX304 • Dastex gloves S, M, XL • Artilux goggles AH166 • Wera bit T5 867/4TX 5x50 • Wera 867/4 6IP; 50mm (Torx 6 PLUS®) • Wera bit T6 867/4TX 6x50 • Wera 867/1 5IP; 25mm (Torx 5 PLUS®) • Wera bit T6 PLUS® 867/4TX 6IP • Facom side cutter 416E • Facom T5 driver SP.14032 • Facom T6 driver SP.14033 • Facom slot screwdriver AEF. 2x35.E • Wetec tweezers 7abb SA-ESD • Wetec tweezers 22 SA-ESD • Wetec tweezers 13 SA-SMD ESD • Wetec tweezers PSF SA-ESD • Wetec ESD brush E1211 • Kaiser Fototechnik airbrush 6315 • Wetec dental tool DEM83266/0 • RS Components Scissors 323-5732

Copyright © 2006 NOKIA Corporation. All rights reserved.

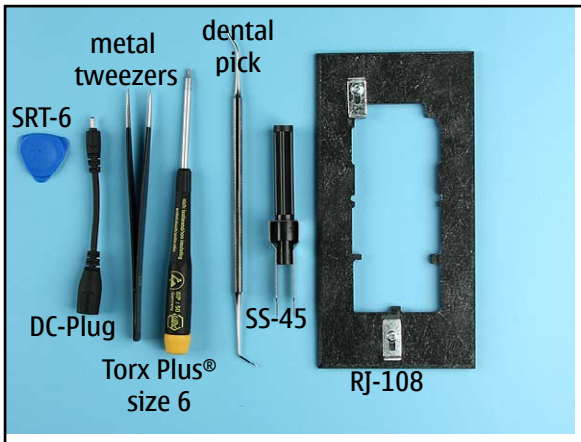
8. SW-UPDATE

Flash Concept – (Point of Sales)

To use FLS-4S Flash Dongle you have to follow the user guide inside the sales package. Please check always for the latest version of flash software, which is available on
NOKIA Online.

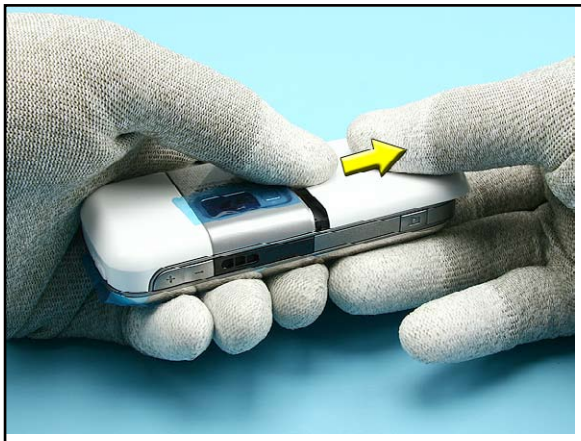
Copyright © 2006 NOKIA Corporation. All rights reserved.

9. DISASSEMBLY INSTRUCTION

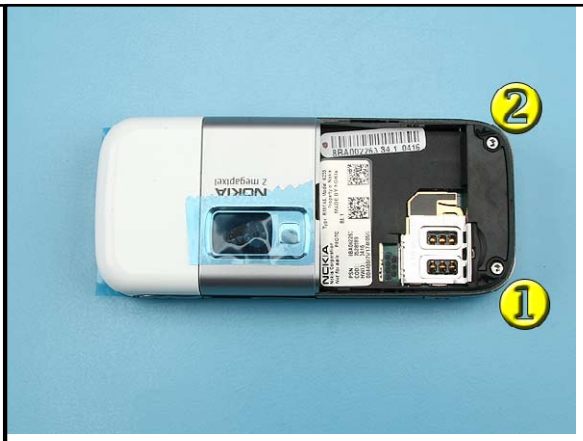


1. Needed tools.

2. Protect the window with a protective film.

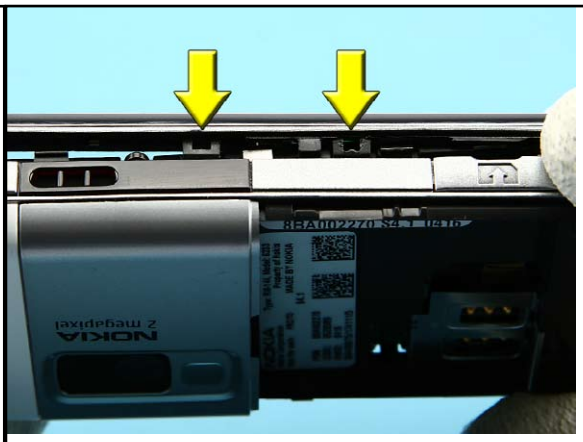


3. Open the BATTERY COVER and ensure that now battery is inserted.



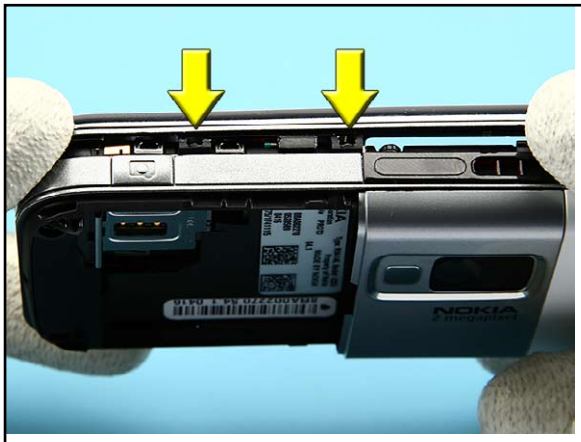
4. Undo the Torx Plus size 6 screws in the order shown.
For assembly, use the reverse order and a torque of 15 Ncm.

5. Discard the screws and use always new ones because of the locking compoud.



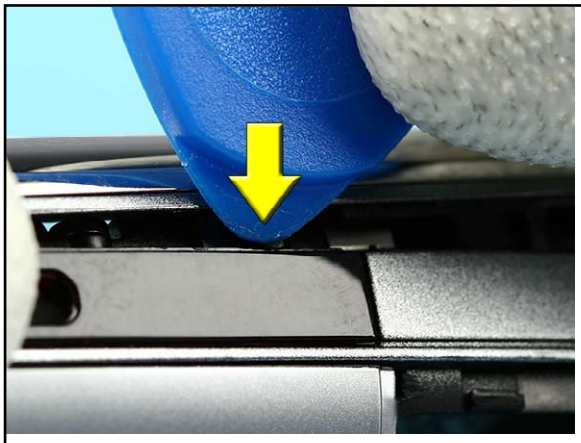
6. This picture shows the position of the holding clips on the left side of the unit.

Copyright © 2006 NOKIA Corporation. All rights reserved.



7. This picture shows the position of the holding clips on the right side of the unit.

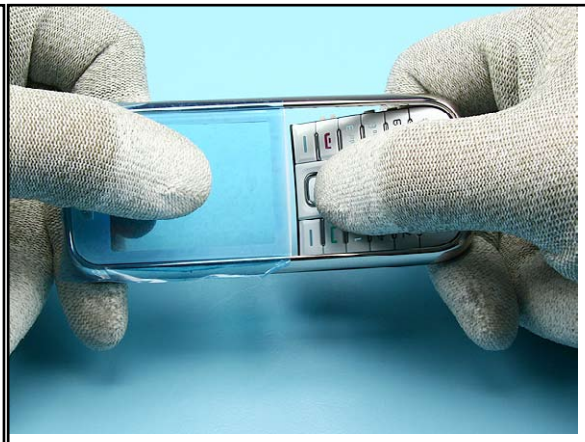
8. Bring the SRT-6 exactly to the position over the (invisible) clips. NOTE! A little sliding motion could be needed (like a 'credit card') when releasing the snaps. Do not damage the edges of the A-COVER.



9. Stick the SRT-6 between the cover and release the four clips.

10. Remove the A-COVER and protect the inner window with a protective film.

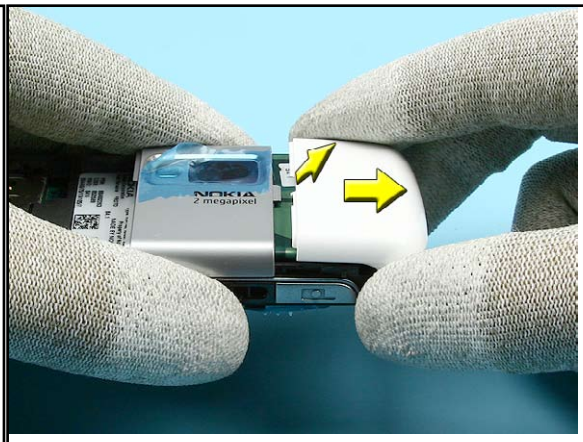
11. Protect the LCD MODULE with a protective film.



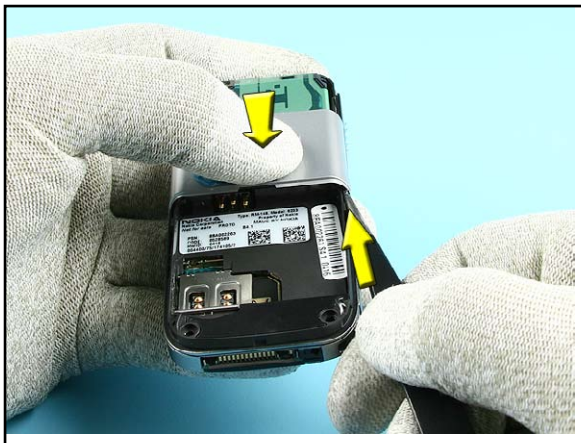
12. Press out the KEYMAT.

Copyright © 2006 NOKIA Corporation. All rights reserved.

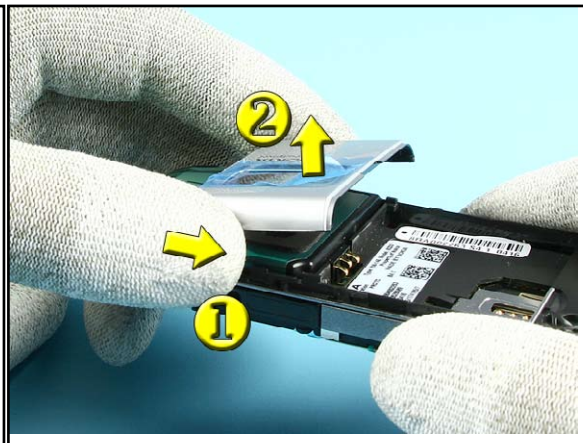
13. Stick the SRT-6 into between the TOP COVER and the CAMERA BEZEL and release the TOP COVER.



14. Now, remove the TOP COVER.



15. To release the CAMERA BEZEL, stick the closed tweezers between the CAMERA BEZEL and the D-COVER.

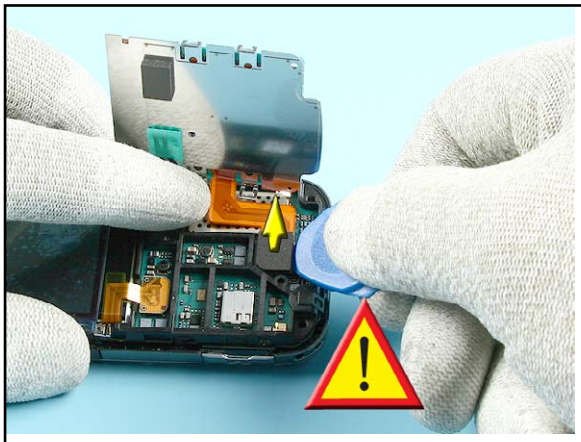


16. Now, remove the CAMERA BEZEL.

17. Unlock the four clips of the C-COVER PLATE ASSY and loosen it.

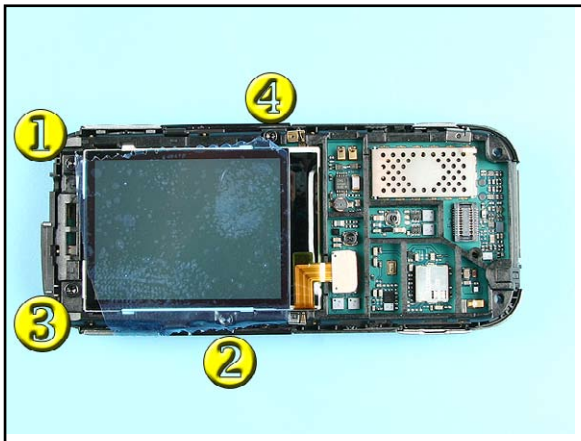
18. Flip over the C-COVER PLATE ASSY and pay attention to the flex foil.

Copyright © 2006 NOKIA Corporation. All rights reserved.

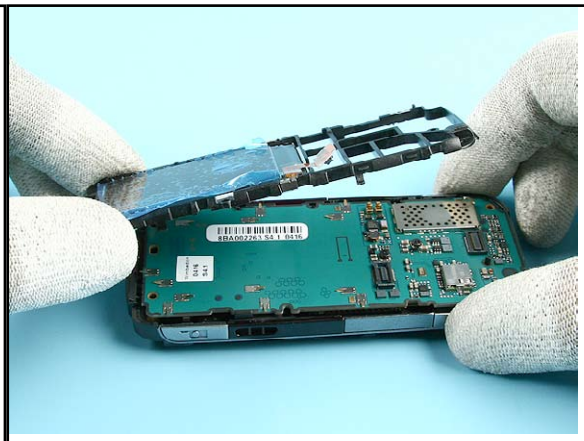


19. Carefully open the flex connector with the SRT-6.

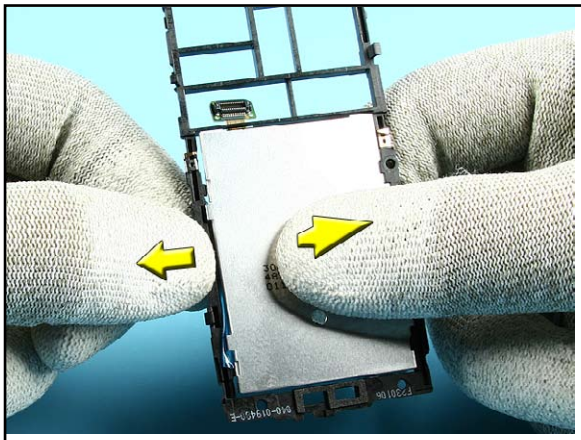
20. Now, also open the flex connector of the LCD MODULE.



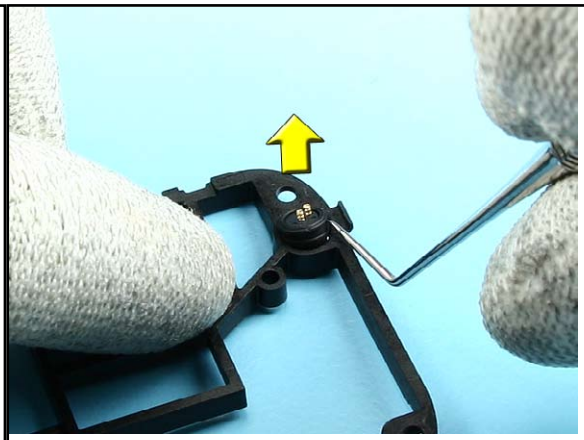
21. Open the Torx Plus size 6 screws in the order shown. For assembly, use the reverse order and a torque of 17Ncm.



22. Take off the C-COVER ASSY with the LCD MODULE.

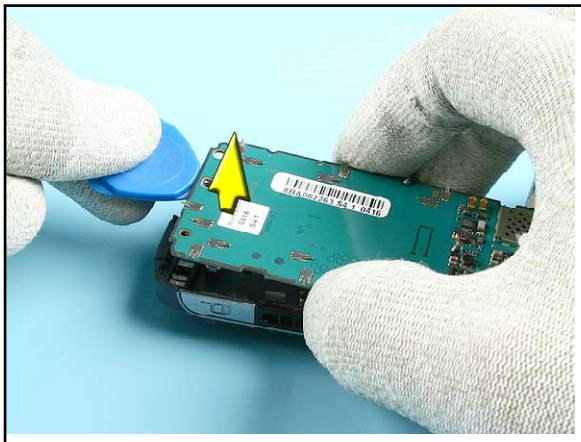


23. Release the LCD MODULE from the C-COVER ASSY by pushing the edges outwards first. Mind the grounding clips.

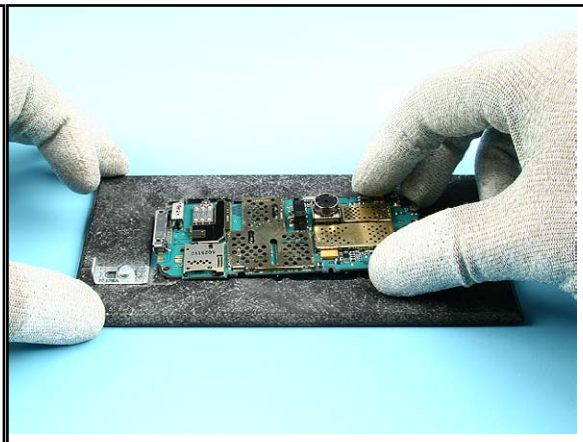


24. Remove the MICROPHONE CLAPTON with the dental pick.

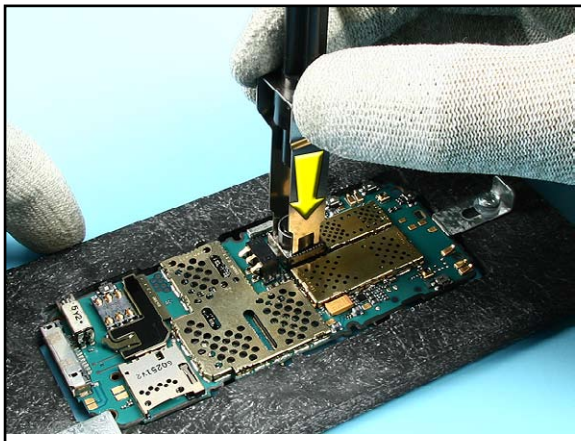
Copyright © 2006 NOKIA Corporation. All rights reserved.



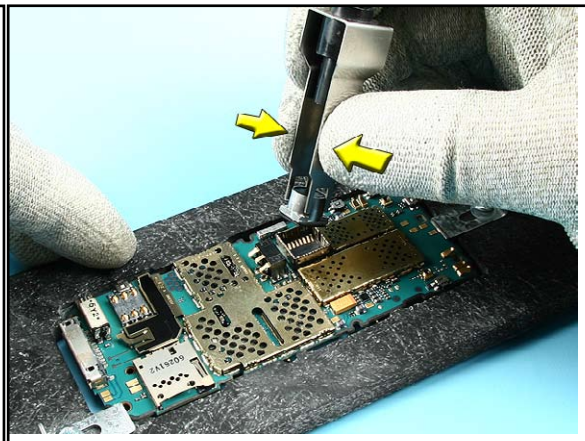
25. Use the SRT-6 as an aid to lift out the ENGINE MODULE from the D-COVER ASSY.



26. Use the soldering jig RJ-108 as a support when working at the CAMERA MODULE. This prevents from damaging or soiling the underneath spring contacts.

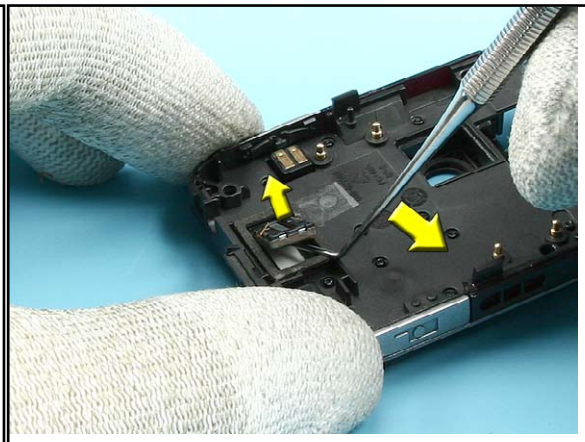


27. Take the SS-45 and fit it between the CAMERA MODULE and the shielding.



28. Press the tool and pull out the CAMERA MODULE.

29. Remove the DC-JACK with a DC-plug.



30. Carefully remove the EARPIECE with the dental tool. Always use a new adhesive tape when replacing the EARPIECE.

Copyright © 2006 NOKIA Corporation. All rights reserved.

31. The disassembly procedure is now finished.

Copyright © 2006 NOKIA Corporation. All rights reserved.

10. GONOGO TEST

To test the Camera, Bluetooth and IRDA functionality refer to the 6233/6234 User`s guide.

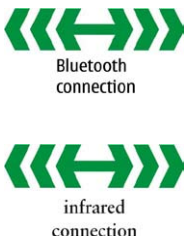
The User´s Guide is available on www.nokia.com.

Before starting the GoNoGo test, check that camera window is clean. If not, clean the window with cloth.

Bluetooth test
You need another Bluetooth device (e.g. 6230) to do a GoNoGo test.
Make sure that Bluetooth is activated in the reference unit. The distance of the devices should be not more than 5m from each other.

Infrared test
You need another infrared device (e.g. 6230) to do a GoNoGo test. The infrared windows of the devices must be directed to each other and should have a distance of approximate 15 cm. Make sure that infrared is activated in receiver device.

Warning: Do not point the IR (infrared) beam at anyone's eye or allow it to interfere with other IR devices. This device is a Class 1 Laser product.



Reference unit, Bluetooth /infrared activated

Test unit

Copyright © 2006 NOKIA Corporation. All rights reserved.

11. BATTERY TEST

A battery tester lets you test the capacity of NOKIA batteries.

Please refer to the actual information on NOKIA Online.

http://www.astratec.co.uk/

http://www.cadex.com/

Copyright © 2006 NOKIA Corporation. All rights reserved.